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Art Unit: 2652

CLMPTO

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1. A multichannel display data generating apparatus for generating data for displaying AV data on a multiscreen comprising a plurality of screens for displaying AV data of a plurality of channels, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

a smaller number of PCR extracting means for extracting in a time-sharing mode the PCR of a plurality of channels displayed on said plurality of screens than the number of said plurality of screens;

the same number of PLL means for establishing PLL synchronization by using said extracted PCR as the number of said plurality of screens;

the same number of STC (system time clock) counter means for counting the times of the channels displayed on said plurality of screens by using the oscillation frequency of said PLL means as the number of said plurality of screens;

AV decoding means for AV-decoding the AV data of the channels displayed on said multiscreen in AV synchronization with said STC counter means; and

output means for outputting said AV-decoded AV data; and

wherein

said output AV data is displayed on said multiscreen.

2. A multichannel display data generating apparatus for

Art Unit: 2652

generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

PCR extracting means for extracting the PCR of the channel displayed on said main screen among said plurality of channels;

PLL means for establishing PLL synchronization by using said extracted PCR;

STC counter means for counting the time of the channel displayed on said main screen by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen in AV synchronization with said STC counter means and for AV-decoding the AV data of the channel displayed on said subsidiary screen out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

3. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels

Art Unit: 2652

on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

one PCR extracting means for extracting the PCR of the channel displayed on said main screen among said plurality of channels and for extracting the PCR of the channel displayed on said subsidiary screen for a predetermined duration when a new channel is selected and the AV data of the channel is firstly displayed on said subsidiary screen;

PLL means for establishing PLL synchronization by using said extracted PCR;

STC counter means for counting the time of the channel displayed on said main screen by using the oscillation frequency of said PLL means and for reproducing the time of the channel displayed on said subsidiary screen by using the PCR for a predetermined duration when a new channel is selected and the AV data of the channel is firstly displayed on said subsidiary screen;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen in synchronization with said STC counter means and for AV-decoding the AV data of the channel

Art Unit: 2652

displayed on said subsidiary screen in AV synchronization with the AV data of the channel for a predetermined duration when a new channel is selected and the AV data of the channel is firstly displayed on said subsidiary screen; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

4. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

two PCR extracting means for extracting the PCR of the channel displayed on said main screen among said plurality of channels and the PCR of the candidate subsidiary screen for the next said main screen among said subsidiary screens;

two PLL means for establishing PLL synchronization with said extracted PCR of the channel displayed on said main screen and the PCR of the channel displayed on the candidate subsidiary screen for the next said main screen by using the oscillation frequency of said PLL means;

Art Unit: 2652

two STC counter means for counting the time of the channel displayed on said main screen and the time of the channel displayed on the candidate subsidiary screen for the next said main screen;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen and the AV data of the channel displayed on the candidate subsidiary screen for the next said main screen in AV synchronization with said STC counter means and for AV-decoding the AV data of the channels displayed on the other subsidiary screens out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

5. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

one PCR extracting means for extracting in a time-sharing mode the PCR of the channel displayed on said main screen and the PCR of the channel displayed on said subsidiary screen among said plurality of channels;

Art Unit: 2652

one PLL means for establishing PLL synchronization by using said extracted PCR of the channel displayed on said main screen;

the same number of STC counter means for counting the times of the channels displayed on said main screen and said subsidiary screen by using the oscillation frequency of said PLL means as the number of the screens of said multiscreen;

AV decoding means for AV-decoding in AV synchronization with said STC counter means; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

6. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

two PCR extracting means for extracting the PCR of the channel displayed on said main screen among said plurality of channels and the PCR of the channel displayed on said candidate subsidiary screen for the next said main screen among said subsidiary screens;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

one STC counter means for counting the time of the channel displayed on said main screen by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen in AV synchronization with said STC counter means and for AV-decoding the AV data of the channel displayed on said subsidiary screen out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

when the channel of said candidate subsidiary screen for the next said main screen is changed to a main screen, said PLL means establishes PLL synchronization with the channel by using the PCR having been extracted, and said STC counter means reproduces the time of the channel, and wherein

said output AV data is displayed on said multiscreen.

7. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus



Art Unit: 2652

comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

two PCR extracting means for extracting the PCR of the channel displayed on said main screen among said plurality of channels and the PCR of the candidate subsidiary screen for the next said main screen among said subsidiary screens;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

two STC counter means for counting the time of the channel displayed on said main screen and the time of the channel displayed on the candidate subsidiary screen for the next said main screen among said subsidiary screens by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen and the AV data of the channel displayed on the candidate subsidiary screen for the next said main screen in AV synchronization with said STC counter means and for AV-decoding the AV data of the channels displayed on the other subsidiary screens out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

8. A multichannel display data generating apparatus for

Art Unit: 2652

generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

the same number of PCR extracting means for extracting the PCR of the channels displayed on said main screen and said subsidiary screen among said plurality of channels as the number of screens of said multiscreen;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

the same number of STC counter means for counting the times of the channels displayed on said main screen and said subsidiary screen by using the oscillation frequency of said PLL means as the number of screens of said multiscreen;

AV decoding means for AV-decoding the AV data of the channels displayed on said main screen and said subsidiary screen in AV synchronization with said STC counter means; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

Art Unit: 2652

9. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

the same number of PCR extracting means for extracting the PCR of the channels displayed on said main screen and said subsidiary screen among said plurality of channels as the number of screens of said multiscreen;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

one STC counter means for counting the time of the channel displayed on said main screen by using the oscillation frequency of said PLL means;

difference calculating means for calculating the difference from the value of said STC counter means when the PCR of the AV data of the channel displayed on said subsidiary screen arrives;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen in AV synchronization with said

Art Unit: 2652

STC counter means and for AV-decoding the AV data of the other channels displayed on the subsidiary screens in AV synchronization with the sum of said difference and the counter value of said STC counter means; and

output means for outputting said AV-decoded AV data; and

wherein

said output AV data is displayed on said multiscreen.

10. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

the same number of PCR extracting means for extracting the PCR of the channels displayed on said main screen and said subsidiary screen among said plurality of channels as the number of screens of said multiscreen;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

one STC counter means for counting the time of the channel displayed on said main screen by using the oscillation frequency

Art Unit: 2652

of said PLL means;

difference calculating means for calculating the difference from the value of said STC counter means when the PCR of the AV data of the channel displayed on said subsidiary screen arrives;

time-stamp rewriting means for rewriting the value of the time stamp of the AV data of the channel displayed on said subsidiary screen into the value of the time stamp subtracted by said difference;

AV decoding means for AV-decoding the AV data of the channel displayed on said main screen in AV synchronization with said STC counter means and for AV-decoding the AV data of the other channels displayed on the subsidiary screens in AV synchronization with said rewritten time stamp and said STC counter means; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

11. A multichannel display data generating apparatus in accordance with Claim 4 or 6 or 7, the number of said PCR extracting means being one instead of two, said PCR extracting means extracting in a time-sharing mode the PCR of the channel displayed on said main screen among said plurality of channels and the PCR of the candidate subsidiary screen for the next said main screen among said subsidiary screens.

Art Unit: 2652

12. (Amended) A multichannel display data generating apparatus in accordance with any one of claims 2, 3, 5-10[11], wherein

said PLL means comprises a counter for counting by using the oscillation frequency generated by an oscillator provided therein, calculates and retains a first difference between the value of the PCR of a channel to be PLL-synchronized firstly extracted by said PCR extracting means and the counter value of said counter at the time of the extraction of the PCR by said PCR extracting means,

calculates a second difference between the value of the PCR of said channel to be PLL-synchronized secondly or subsequently extracted by said PCR extracting means and the counter value of said counter at the time of the extraction of the PCR by said PCR extracting means, and

controls the oscillation frequency so as to reduce the difference between said first difference and said second difference.

13. A multichannel display data generating apparatus for generating data for displaying AV data on a multiscreen comprising a plurality of screens for displaying AV data of a plurality of channels, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of said plurality of

Art Unit: 2652

channels being transferred using a transport packet of a transport stream;

a smaller number of PCR extracting means for extracting, unit by unit in a time-sharing mode, the PCR of said predetermined transmission units to which said plurality of channels belong than the number of said plurality of screens or the number of display transmission units defined by the number of said predetermined transmission units to which said plurality of channels displayed on said plurality of screens belong;

the same number of PLL means for establishing PLL synchronization at least unit by unit by using said extracted PCR as the number of said plurality of screens or said number of display transmission units;

the same number of STC counter means for counting the time of each of said predetermined transmission units to which the channels displayed on said plurality of screens belong by using the oscillation frequency of said PLL means as the number of said plurality of screens or said number of display transmission units;

AV decoding means for AV-decoding the AV data of the channels displayed on said plurality of screens in AV synchronization with said STC counter means corresponding to said predetermined transmission units to which the channels displayed on said plurality of screens belong; and

output means for outputting said AV-decoded AV data; and  
wherein

Art Unit: 2652

said output AV data is displayed on said multiscreen.

14. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

PCR extracting means for extracting the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs;

PLL means for establishing PLL synchronization by using said extracted PCR;

STC counter means for counting the time of said predetermined transmission unit to which the channel displayed on said main screen by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said main screen among said plurality of screens belongs in AV synchronization with said STC counter means



Art Unit: 2652

and for AV-decoding the AV data of the channel displayed on said subsidiary screen which is not included in said predetermined transmission unit to which the channel displayed on said main screen belongs out of AV synchronization; and

output means for outputting said AV-decoded AV data; and  
wherein

said output AV data is displayed on said multiscreen.

15. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

one PCR extracting means for extracting the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and for extracting the PCR of said predetermined transmission unit to which the channel displayed on said subsidiary screen belongs for a predetermined duration when a new channel is selected and the AV data of the channel is firstly displayed on said subsidiary

Art Unit: 2652

screen;

PLL means for establishing PLL synchronization by using said extracted PCR;

STC counter means for counting the time of said predetermined transmission unit to which the channel displayed on said main screen belongs by using the oscillation frequency of said PLL means and for reproducing the time of the channel displayed on said subsidiary screen by using the PCR of said predetermined transmission unit to which the channel belongs for a predetermined duration when a new channel is selected and the AV data of the channel is firstly displayed on said subsidiary screen;

AV decoding means for AV-decoding the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs in synchronization with said STC counter means and for AV-decoding the AV data of the channel displayed on said subsidiary screen in AV synchronization with the AV data of the channel included in said predetermined transmission unit to which the channel belongs for a predetermined duration when a new channel is selected and the AV data of the channel is firstly displayed on said subsidiary screen; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

Art Unit: 2652

16. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

two PCR extracting means for extracting the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the PCR of said predetermined transmission unit to which the candidate subsidiary screen for the next said main screen among said subsidiary screens belongs;

two PLL means for establishing PLL synchronization with said extracted PCR of said predetermined transmission unit to which the channel displayed on said main screen belongs and said extracted PCR of said predetermined transmission unit to which the channel displayed on the candidate subsidiary screen for the next said main screen belongs;

two STC counter means for counting the time of said predetermined transmission unit to which the channel displayed

Art Unit: 2652

on said main screen belongs and the time of said predetermined transmission unit to which the channel displayed on the candidate subsidiary screen for the next said main screen belongs by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the AV data of the channel included in said predetermined transmission unit to which the channel displayed on the candidate subsidiary screen belongs for the next said main screen in AV synchronization with said STC counter means and for AV-decoding the AV data of the channels displayed on the other subsidiary screens out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

17. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

Art Unit: 2652

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

one PCR extracting means for extracting, unit by unit in a time-sharing mode, the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the PCR of said predetermined transmission unit to which the channel displayed on said subsidiary screen among said plurality of channels belongs;

one PLL means for establishing PLL synchronization by using the PCR of said predetermined transmission unit to which the channel displayed on said main screen belongs among said PCR extracted unit by unit;

the same number of STC counter means for counting the times of said predetermined transmission units to which the channels displayed on said main screen and said subsidiary screen by using the oscillation frequency of said PLL means as the number of the screens of said multiscreen or the number of display transmission units defined by the number of said predetermined transmission units to which said plurality of channels displayed on said multiscreen belong;

AV decoding means for AV-decoding the AV data of the channels displayed on said plurality of channels in AV synchronization with said STC counter means corresponding to said predetermined transmission units to which the channels displayed

Art Unit: 2652

on said plurality of channels belong; and

output means for outputting said AV-decoded AV data; and

wherein

said output AV data is displayed on said multiscreen.

18. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

two PCR extracting means for extracting the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the PCR of said predetermined transmission unit to which the channel displayed on said candidate subsidiary screen for the next said main screen among said subsidiary screens belongs;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

one STC counter means for counting the time of said

Art Unit: 2652

predetermined transmission unit to which the channel displayed on said main screen belongs by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs in AV synchronization with said STC counter means and for AV-decoding the AV data of the channel displayed on said subsidiary screen which is not included in said predetermined transmission unit to which the channel displayed on said main screen belongs out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

when the channel of said candidate subsidiary screen for the next said main screen is changed to a main screen, said PLL means establishes PLL synchronization with said predetermined transmission unit to which the channel belongs by using the PCR having been extracted, and said STC counter means reproduces the time of said predetermined transmission unit to which the channel belongs, and wherein

said output AV data is displayed on said multiscreen.

19. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and

Art Unit: 2652

a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

two PCR extracting means for extracting the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the PCR of said predetermined transmission unit to which the candidate subsidiary screen for the next said main screen among said subsidiary screens belongs;

one PLL means for establishing PLL synchronization with said predetermined transmission unit to which the channel displayed on said main screen belongs by using said extracted PCR;

two STC counter means for counting the time of said predetermined transmission unit to which the channel displayed on said main screen belongs and the time of said predetermined transmission unit to which the channel displayed on the candidate subsidiary screen for the next said main screen among said subsidiary screens belongs by using the oscillation frequency of said PLL means;

AV decoding means for AV-decoding the AV data of the channel



Art Unit: 2652

included in said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the AV data of the channel included in said predetermined transmission unit to which the channel displayed on the candidate subsidiary screen for the next said main screen belongs in AV synchronization with said STC counter means and for AV-decoding the AV data of the channels displayed on the other subsidiary screens out of AV synchronization; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

20. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

the same number of PCR extracting means for extracting, unit by unit, the PCR of said predetermined transmission units to which the channels displayed on said main screen and said

Art Unit: 2652

subsidiary screen among said plurality of channels belong as the number of screens of said multiscreen or the number of display transmission units defined by the number of said predetermined transmission units to which said plurality of channels displayed on said multiscreen belong;

one PLL means for establishing PLL synchronization with the channel displayed on said main screen by using said extracted PCR;

the same number of STC counter means for counting the times of said predetermined transmission units to which the channels displayed on said main screen and said subsidiary screen belong by using the oscillation frequency of said PLL means as the number of screens of said multiscreen or said number of display transmission units;

AV decoding means for AV-decoding the AV data of the channels included in said predetermined transmission units to which the channels displayed on said main screen and said subsidiary screen among said plurality of channels belong in AV synchronization with said STC counter means; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

21. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video

Art Unit: 2652

of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

the same number of PCR extracting means for extracting the PCR of said predetermined transmission units to which the channels displayed on said main screen and said subsidiary screen among said plurality of channels belong as the number of screens of said multiscreen or the number of display transmission units defined by the number of said predetermined transmission units to which said plurality of channels displayed on said multiscreen belong;

one PLL means for establishing PLL synchronization with said predetermined transmission unit to which the channel displayed on said main screen belongs by using said extracted PCR;

one STC counter means for counting the time of said predetermined transmission unit to which the channel displayed on said main screen belongs by using the oscillation frequency of said PLL means;

difference calculating means for calculating the

Art Unit: 2652

difference from the value of said STC counter means when the PCR of the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said subsidiary screen belongs arrives;

AV decoding means for AV-decoding the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said main screen belongs in AV synchronization with said STC counter means and for AV-decoding the AV data of the other channels displayed on the subsidiary screens in AV synchronisation with the sum of said difference and the counter value of said STC counter means; and

output means for outputting said AV-decoded AV data; and

wherein

said output AV data is displayed on said multiscreen.

22. A multichannel display data generating apparatus for generating data for displaying AV data of plurality of channels on a multiscreen comprising a main screen for displaying the video of AV data the voice of which is output to a main speaker and a subsidiary screen for displaying the video of AV data the voice of which is not output to a main speaker, wherein

each of predetermined transmission units to which said plurality of channels belong includes identical PCR,

said apparatus comprising:

input means for inputting AV data of a plurality of channels being transferred using a transport packet of a transport stream;

Art Unit: 2652

the same number of PCR extracting means for extracting, unit by unit, the PCR of said predetermined transmission units to which the channels displayed on said main screen and said subsidiary screen among said plurality of channels belong as the number of screens of said multiscreen or the number of display transmission units defined by the number of said predetermined transmission units to which said plurality of channels displayed on said multiscreen belong;

one PLL means for establishing PLL synchronization with said predetermined transmission unit to which the channel displayed on said main screen belongs by using said extracted PCR;

one STC counter means for counting the time of said predetermined transmission unit to which the channel displayed on said main screen belongs by using the oscillation frequency of said PLL means;

difference calculating means for calculating the difference from the value of said STC counter means when the PCR of the AV data of said predetermined transmission unit to which the channel displayed on said subsidiary screen belongs arrives;

time-stamp rewriting means for rewriting the value of the time stamp of the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said subsidiary screen belongs into the value of the time stamp subtracted by said difference;

Art Unit: 2652

AV decoding means for AV-decoding the AV data of the channel included in said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs in AV synchronization with said STC counter means and for AV-decoding the AV data of the other channels displayed on the subsidiary screens in AV synchronization with said rewritten time stamp and said STC counter means; and

output means for outputting said AV-decoded AV data; and wherein

said output AV data is displayed on said multiscreen.

23. A multichannel display data generating apparatus in accordance with Claim 16 or 18 or 19, the number of said PCR extracting means being one instead of two, said PCR extracting means extracting in a time-sharing mode the PCR of said predetermined transmission unit to which the channel displayed on said main screen among said plurality of channels belongs and the PCR of said predetermined transmission unit to which the candidate subsidiary screen for the next said main screen among said subsidiary screens belongs.

Art Unit: 2652

24. (Amended) A multichannel display data generating apparatus in accordance with any one of claims 14, 15, 17-22[23], wherein

said PLL means comprises a counter for counting by using the oscillation frequency generated by an oscillator provided therein, calculates and retains a first difference between the value of the PCR of said predetermined transmission unit to which a channel to be PLL-synchronized belongs extracted firstly by said PCR extracting means and the counter value of said counter at the time of the extraction of the PCR by said PCR extracting means,

calculates a second difference between the value of the PCR of said predetermined transmission unit to which said channel to be PLL-synchronized belongs extracted secondly or subsequently by said PCR extracting means and the counter value of said counter at the time of the extraction of the PCR by said PCR extracting means, and

controls the oscillation frequency so as to reduce the difference between said first difference and said second difference.

25. (Amended) A multichannel display data generating apparatus in accordance with any one of claims 13-22[24], wherein said predetermined transmission unit is a transport stream.

26. (Amended) A multichannel display data generating apparatus in accordance with any one of claims 13-22[24], wherein said predetermined transmission unit is a broadcasting station.

27. (Amended) A medium [which is] able to be processed by a computer and carrying a program and/or data for executing with a computer all or a portion of the function of all or a portion of means of the multichannel display data generating apparatus in [accordance with] any one of claims 13-22[26].

28. (Amended) An informational set which is a program and/or data for executing with a computer all or a portion of the function of all or a portion of means of the multichannel display data generating apparatus [in accordance] with any one of claims 13-22[26].